

# Squaw Creek National Wildlife Refuge

## Light Goose Hunting Plan

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## Table of Contents

I.	Introduction.....	4
II.	Conformance with Statutory Authority.....	5
III.	Statement of Objectives.....	5
IV.	Assessment.....	6
V.	Description of Hunting Program.....	6
	A. Fields to be Hunted.....	7
	B. Guide Services.....	7
	C. Hunting Seasons and Species.....	8
	D. Law Enforcement.....	8
	E. Other Needs.....	8
VI.	Measures Taken to Avoid Conflicts with Other Management Objectives.....	9
	A. Biological Conflicts.....	9
	B. Conflicts With Other Visitors.....	10
	C. Administrative Use Conflicts.....	10
VII.	Conduct of the Hunt.....	10
	A. Refuge Specific Hunting Regulations.....	10
	B. Anticipated Public Reaction to the Hunt.....	11
	C. Hunter Application and Registration Procedures.....	11
	D. Description of Hunter Selection Process.....	11
	E. Media Selection for Announcing and Publicizing the Hunt.....	11
	F. Description of Hunter Orientation.....	11
	G. Hunter Requirements.....	11

VIII. Literature Cited.....	12
Figure 1.....	13
Appendix 1.....	14
Appendix 2.....	15

## I. Introduction

Squaw Creek National Wildlife Refuge (Squaw Creek) is located in Holt County in northwestern Missouri, approximately half way between Kansas City, Missouri and Omaha, Nebraska, 2.5 miles west of Interstate Highway 29 (Figure 1). This 7,441 acre refuge includes approximately 6,700 acres of floodplain that is managed as wetland, grassland, and riparian habitat that attracts up to 475 Bald Eagles (*Haliaeetus leucocephalus*), 300,000 Lesser Snow Geese (*Chen caerulescens caerulescens*), and 200,000 ducks during the fall and winter seasons.

The Refuge gets its name from Squaw Creek, a major stream that drains the Loess Hills on the east and flows through the Missouri River floodplain portion of the refuge via a man-made ditch, and then empties into the Missouri River approximately 8 miles south of the refuge. Davis Creek, which has also been ditched, flows along the eastern refuge boundary and joins Squaw Creek just after leaving the refuge. The Refuge's west boundary is about 5 miles from the closest bank of the Missouri River. The Santa Fe-Burlington Northern railroad grade runs along the west boundary of the Refuge. Its embankment provides some protection from Missouri River overflows.

Refuge lowlands were once part of a large natural marsh in the Missouri River floodplain. Historically, this area was heavily used by waterfowl and other migratory birds during spring and fall migrations.

The approximately 740 acres of Refuge uplands include a segment of the 200-mile long band of bluffs known as the Loess Hills. The Loess Hills support rare remnants of native prairie and prairie associated wildlife along with oak-hickory dominated deciduous forest.

The Refuge hosts 310 species of birds, 33 mammals, and 35 reptiles and amphibians. Missouri's largest wet prairie remnant (938 acres) is on the Refuge and it is home to Missouri's largest meta-population of the Eastern Massasauga rattlesnake (*Sistrurus catenatus catenatus*), a federal candidate species.

Squaw Creek hosts approximately 140,000 visitors per year. A majority of the visitors are participating in wildlife viewing, hiking, environmental education, fishing, and nature photography.

A major visitor attraction is the annual arrival of thousands of Snow Geese and hundreds of Bald Eagles on their fall and spring migration routes. A 10-mile auto tour route, a hiking trail, interpretive panels, and two observation platforms facilitate these wildlife viewing opportunities.

Squaw Creek currently has an established deer hunting program that was started in 1988. This muzzleloader-only deer hunt provides quality wildlife dependant recreation for up to 125 participants each year and is considered by many to be one of the best managed hunts

in the state. This hunt is focused on quality deer management and serves as a valuable tool for herd management.

The mid-continent light goose population (MCP) is expanding at a rate of approximately 5% per year and major efforts must be undertaken to reduce population growth in order to reduce the current destruction of their arctic breeding ground habitat (Batt et al., 1997). In an effort to help reverse this trend, while at the same time providing valuable wildlife dependant recreation, Squaw Creek will implement a spring snow goose hunt on the refuge. This hunt, which will take place during the spring light goose conservation order (64 FR 7517 and Arctic Tundra Habitat Emergency Conservation Act, 1999), and will focus on maximizing the harvest of light geese, specifically Lesser Snow Geese, by allowing hunting on a portion of the Refuge. Hunting on a select portion of the refuge will also aid in dispersing light geese from the agricultural crop fields on the refuge to off-refuge areas which should, in turn, facilitate the overall harvest of light geese in northwestern Missouri.

## **II. Conformance with Statutory Authority**

Squaw Creek was established under the authorities of the Migratory Bird Conservation Act of 1929 and the Migratory Bird Hunting Act of 1934. Signed into existence by President Franklin D. Roosevelt as the “Squaw Creek Migratory Waterfowl Refuge” on August 23, 1935, in Executive Order 7156, the Refuge’s purpose was to “...effectuate further the purpose of the Migratory Bird Conservation Act.” The Executive Order further stated that the lands are to be used “as a refuge and breeding ground for migratory birds and other wildlife.”

Additional statutory authorities relevant to the management of Squaw Creek include the Migratory Bird Treaty Act of 1918, the Bald Eagle Protection Act of 1940, Endangered Species Act of 1973, Fish and Wildlife Improvement Act of 1978 and the National Wildlife Refuge Improvement Act of 1997. The Refuge’s existing deer hunt is in conformance with these laws and regulations.

All light goose hunting will be in accordance with applicable federal and state regulations and seasons. Refuge-specific regulations will also govern light goose hunting activities. Any future modifications of federal regulations which might be effected to significantly increase the taking of light geese will be considered and adopted as conditions warrant.

## **III. Statement of Objectives**

The objectives of Squaw Creek’s light goose hunt plan are to:

- 1) Maximize the on-refuge harvest of light geese, specifically Lesser Snow Geese, during the spring light goose conservation order.

- 2) Disperse light geese from the agricultural crop fields on the refuge to off-refuge areas which should, in turn, facilitate the overall harvest of light geese in northwestern Missouri.
- 3) Provide a quality light goose hunting opportunity.
- 4) Promote the value of hunting as a wildlife management tool.

#### **IV. Assessment**

The MCP, which includes the Lesser Snow Goose and Ross' Goose (*Chen rossii*), has been increasing at an estimated average rate of 5%/year (Abraham et al., 1996). Similarly, the winter index of the MCP has increased from 777,000 in 1970 to 2,400,000 in 2000 (Sharp and Moser, 2000). Currently the North American Waterfowl Management Plan population goal and the joint Central and Mississippi Flyway Council upper management thresholds have been exceeded (U.S. Fish and Wildlife Service, 2004). This annual rate of increase has resulted in extensive damage to the arctic breeding grounds due to over-grazing/grubbing by geese, which has a direct impact on the MCP as well as other bird species that utilize these breeding grounds. The many problems associated with this "over-grazing" are well documented by Batt et al. (1997) and U.S. Fish and Wildlife Service (2004). The U.S. Fish and Wildlife service, together with the Canadian Wildlife Service, Ducks Unlimited and state wildlife officials are working together to address this problem with the formation of the Arctic Goose Habitat Working Group who's purpose is to provide recommendations for a solution. Although many methods were recommended by the group to achieve the goal of population reduction, sport hunting was the preferred method. Hunting was selected because harvest by hunters is an acceptable utilization of this resource and hunters are considered "a highly motivated, well equipped and economical labor force ... with a widely demonstrated commitment to waterfowl conservation" (Batt et al., 1997). The use of hunting as a tool to control the MCP was also supported by a majority of the participants in the MCP workshops held throughout the central and Mississippi flyways (Arnold, 1997).

The recommended harvest level needed to decrease the MCP 50% by 2005 was 1,410,000 geese/year (Rockwell and Ankey, 2000). During the 1999/2000 hunting season approximately 1,488,633 geese were harvested from the MCP, slightly exceeding the recommended harvest level (U.S. Fish and Wildlife Service, 2004). Any harvest beyond the recommended level will likely reduce the amount of time needed to reach populations goals and we believe that Squaw Creek can contribute to this effort.

#### **V. Description of the Hunting Program**

This hunt is designed to increase the overall harvest of light geese in northwest Missouri while providing a quality hunting experience. A major component of this hunt will be the utilization of professional guides to run the daily hunts. This will help maximize the light goose harvest, regulate the number of hunters at any one time in the field and ensure quality hunting conditions.

## **A. Fields to be Hunted**

Squaw Creek currently has 535 acres of agricultural fields of which a small portion is traditionally used by light geese. The agricultural fields located on the northeast portion of the refuge will be opened to hunting (Figure 1). These fields, totaling 236 acres in size, have had the highest traditional use by light geese and are the farthest from known Bald Eagle perching and roosting sites. Additionally, this field is relatively close to State Highway 118 which will be the only access point for guides and hunters in order to prevent potential conflict with other wildlife-dependant recreational activities occurring on the refuge during the hunt. The remaining agricultural fields on the refuge have little or no traditional use by light geese, due to the small size of these fields, are immediately adjacent to known Bald Eagle perching and roosting sites, and will have approximately ½ of their acreage converted to native grass over the next 10 years (Squaw Creek NWR, 2004).

## **B. Guide Services**

One guide per year will be authorized, by special use permit, to hunt on the refuge. The refuge Visitor Services Manager will be the hunt coordinator and primary point of contact for the guide after a selection has been made. The Park Ranger is expected to monitor the hunt and work with the guide to arbitrate any problems that may be encountered.

The guide will be selected through a bidding process with selection being based on a combination of qualifications and highest qualifying bid. Acceptance will go to the highest qualifying bidder. The bid process will be repeated for each season on an annual basis. Qualifications for guides to enter the bidding process include:

- 1) An established history, minimum of three years, managing a commercial waterfowl hunting business.
- 2) Demonstrable experience hunting light geese.
- 3) No state or federal game law violations within the last five years.
- 4) Available to hunt on the refuge seven days a week.
- 5) Must maintain and provide proof of liability insurance.

The selected guide will be allowed to take one assistant into the field. This assistant may conduct the standard duties associated with guiding. Both the guide and assistant are not allowed to harvest geese during the hunt.

The selected guide will be allowed to take a maximum of 10 hunters in the field during each hunting session. All hunter fees are to be reasonably negotiated and exchanged off-refuge prior to the hunt. The guide is responsible for the safe actions and adherence to refuge regulations of all hunters, and must have them in sight at all times. The selected guide must maintain and provide proof of liability insurance.

The guide must maintain a Daily Light Goose Hunt Reporting Form that includes The number of hunters participating in the hunt; number of hours hunted; and number and age of species harvested (Appendix 1). This record will be provided to the hunt coordinator on a weekly basis.

### **C. Hunting Season and Species**

The proposed hunt will be a light goose (Snow Geese and Ross' Geese) hunt that will take place during the spring conservation order only. Hunting will be allowed seven days a week. Hunting will take place from the beginning of legal shooting time until 12:00 PM each day. The guide and hunters will be allowed access to the hunt area 2 hours prior to the beginning of legal shooting time to set out hunting decoys and other gear for that days hunt. The guide and hunters will have a period of 2 hours, from 12:00 PM until 2:00 PM, to remove hunting decoys and other gear from the hunt area. No decoys or other hunting gear may be left in the field after 2:00 PM. The ½ day hunting will be evaluated after the first year and may be changed to all day if it is in the best interest of both the hunt and Squaw Creek. Hunting will be allowed during the entire spring conservation order season. However, if hunting disturbs the geese to the point that they do not use the closed portion of the refuge that is traditionally used by light geese as a staging area during spring migration then the hunt timing will be evaluated and may be restricted to periods that are dependant on the number of geese actively using the refuge. It may be critical to allow sufficient numbers of geese to establish a pattern of use on the refuge for several days prior to opening the hunt in order to retain light geese staging on the closed portion of the refuge.

### **D. Law Enforcement**

Squaw Creek does not have any law enforcement staff for the refuge. The refuge will rely on the Zone Law Enforcement Officer and state Conservation Officers to check guides and hunt participants for compliance with state and federal game laws. Refuge staff that observe violations will immediately report them to appropriate law enforcement officials.

### **E. Other Needs**

The light geese numbers and use patterns are monitored routinely by the refuge wildlife biologist and other staff members. When geese are seen using the designated hunting field the hunt coordinator will be notified so this information can be provided to the guide. This will help encourage light goose harvest on the refuge.

Station funding costs are estimated to be approximately \$5,000 for the first year, including \$3,000 for graveling the State Highway 118 entrance road and hunter parking area and \$2,000 for administrative costs. Annual administrative costs



after the first year should remain approximately \$2,000 per year. This is not anticipated to increase over time.

## **VI. Measures Taken to Avoid Conflicts with Other Management Objectives**

### **A. Biological Conflicts**

Three Federal threatened/endangered species and one Federal candidate species use the refuge. These include the Bald Eagle, Piping Plover (*Charadrius melodus*), Least Tern (*Sterna antillarum*), and Eastern Massasauga Rattlesnake.

The Piping Plover and Least Tern are occasional visitors of the refuge with approximately 2-3 sightings per/year. They typically do not occur on the refuge during the spring light goose conservation order hunting season and they do not use the agricultural cropland on the refuge. Encounters between these species and hunt participants is highly unlikely. These temporal and spatial differences, relative to the location and timing of the proposed hunting activity, preclude them from being negatively impacted by such activity.

Eastern Massasauga Rattlesnakes do not use the agricultural cropland on the refuge and are hibernating during a significant portion of the spring light goose conservation order hunting season. Encounters between this species and hunt participants is highly unlikely. These temporal and spatial differences, relative to the location and timing of the proposed hunting activity, preclude them from being negatively impacted by such activity.

The Bald Eagle is the only federal threatened or endangered species that actively utilizes the refuge during the time period coinciding with the spring light goose conservation order hunting season. This species, which is migrating during the same time period as light geese and other waterfowl, are abundant on the refuge during this time period. Up to 144 Bald Eagles have been recorded on the refuge during the spring migration and breeding period. One pair of Bald Eagles has continually nested and fledged several young on the refuge over the past eight years.

To mitigate any possible disturbance to Bald Eagles, the hunt boundaries were constructed at least one-quarter of a mile from known perching and roosting sites and one and one-half miles from the nesting site to avoid disturbing Bald Eagles. The daily duration of the proposed hunting activity is also limited to one-half day to decrease potential disturbance to Bald Eagles. These mitigation factors should preclude Bald eagles from being negatively impacted by the proposed hunting activity.

## **B. Conflicts With Other Visitors**

Approximately 30,000 visitors use the refuge to view migrating light geese and other birds during this time period. Hunting pressure may impact the number and duration of stay for light geese on the refuge, as mentioned in section V.C. This, in turn, may affect wildlife viewing opportunities. The reaction of light geese to this hunt will be closely monitored by refuge staff and appropriate measures will be implemented, if necessary, as mentioned in section V.C.

## **C. Administrative Conflicts**

There are no administrative conflicts with this proposed hunt.

# **VII. Conduct of the Hunt**

## **A. Refuge-specific Hunting Regulations**

Refuge-specific regulations pertaining to the hunt are as follows. Some changes may be warranted after evaluation of the first year's hunt.

- 1) All state and federal regulations apply to this hunt.
- 2) Hunters must remain with the guide in the hunt boundary at all times, within direct sight.
- 3) The guide and hunters are allowed into the hunt boundary up to two hours prior to legal shooting time.
- 4) Hunting will stop at 12:00 PM and hunters must be out of the fields by 2:00 PM.
- 5) Hunting dogs, portable blinds, and decoys are allowed at the discretion of the guide.
- 6) No pit blinds are allowed.
- 7) Hunting dogs must be under control at all times.
- 8) Crippled geese may not be retrieved outside of the hunt boundary, including adjacent private land. This includes retrieval by hunting dogs.
- 9) No vehicles will be allowed beyond the established parking area located adjacent to State Highway 118.
- 10) The use of ATVs to set out decoys, other hunting equipment, and hunters will be permitted within the hunt boundary. ATVs may not be used to retrieve harvested or crippled geese.
- 11) Both the guide and hunters are responsible for ensuring that all trash, including spent shotgun shells, are removed from the hunt area each day.
- 12) Violation of these rules may result in the revocation of the guides special use permit as deemed appropriate by the refuge manager.

## **B. Anticipated Public reaction to the Hunt**

This hunt will likely produce some negative reactions from refuge visitors and adjacent land owners/users during the hunt. Approximately 30,000 visitors use the refuge to view migrating light geese and other birds during this time period. Hunters pursuing light geese are also using the adjacent private lands during this time period. Direct conflict between refuge hunt participants and visitors and off-refuge hunters will be reduced by limiting guide and hunter access to the State Highway 118 entrance, a non-public access entrance, by not permitting hunting within ¼ mile of the auto tour loop road (Figure 1), and not permitting hunters to retrieve crippled geese outside of the hunt boundary. Visitor and off-refuge hunter complaints will be dealt with on a case by case basis and will provide an opportunity to inform and educate visitors about hunting as a compatible refuge use and the problems associated with light goose over-population.

## **C. Hunter Application and registration Procedures**

Hunters will be referred to the refuge guides, which will reduce administrative costs. The guide will be responsible for selecting and scheduling their clients.

## **D. Description of Hunter Selection Process**

Same as section VII. C.

## **E. Media Selection for Announcing and Publicizing the Hunt**

The refuge has a standard list of local media contacts for news releases. A news release announcing the hunt will be sent out approximately one month prior to the first day of the hunt. Yearly announcements will be issued thereafter.

## **F. Description of Hunter Orientation**

The hunt coordinator will orient the guide as to what is expected and review the guide's responsibilities. A hunter orientation/requirement form (Appendix 2) will be provided to the guide. The guide will be required to review this sheet with each hunter, and have them sign and date it. The guide is responsible for all record keeping and must supply all records as requested by the hunt coordinator.

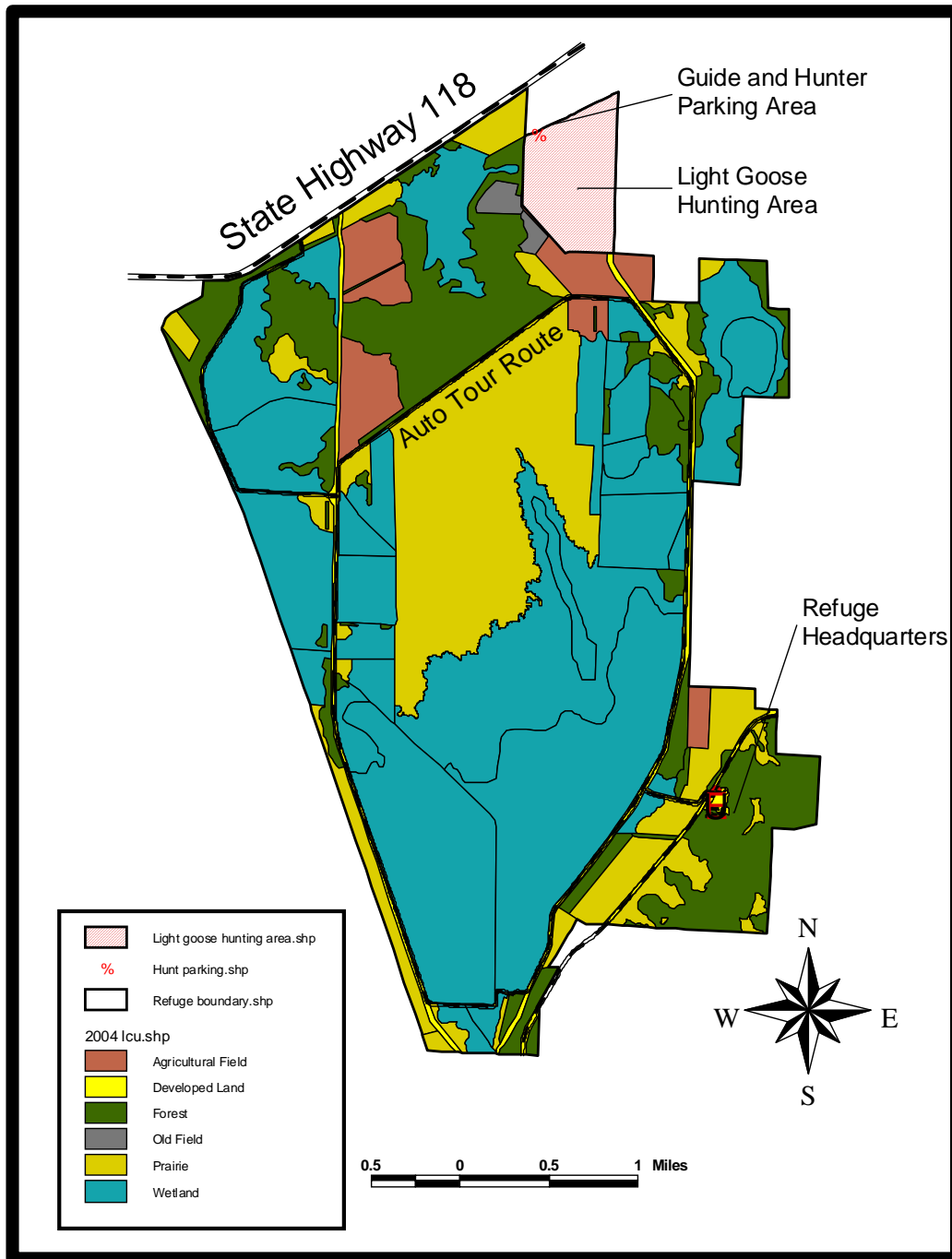
## **G. Hunter Requirements**

Hunter requirements are listed on the hunter orientation/requirement form (Appendix 2). Hunters will be responsible for adhering to the items listed on this form.

## VIII. Literature Cited

- Abraham, K.F., R.L. Jefferies, R.F. Rockwell and C.D. MacInnes. 1996. Why are there so many white geese in North America? Pages 79-92 in J. Ratti (editor). Proceedings of the 7<sup>th</sup> International Waterfowl Symposium. Ducks Unlimited, Memphis, Tennessee.
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- Squaw Creek NWR. 2004. Draft comprehensive conservation plan. U.S. Fish and Wildlife Service, Mound City, Missouri.
- U.S. Fish and Wildlife Service. 2004. Draft environmental impact statement: Light goose management. U.S. Fish and Wildlife Service, Washington, D.C. 255 pp + appendices.

**Figure 1.** Map of Squaw Creek National Wildlife Refuge and light goose hunting area.



Appendix 1.

## **Daily Light Goose Hunt Reporting Form**

**Date:**

**Number of Hunters:**

**Total Hours of Actual Hunting Time:**

**Light Goose Harvest**

Adult Blues:

Immature Blues:

Adult Snows:

Immature Snows:

Ross' Geese:

**Total Geese Harvested:**

**Comments:**

## Appendix 2.

# Squaw Creek National Wildlife Refuge Hunter Orientation and Requirements

The hunt you are participating in is part of a large scale effort to reduce the mid-continent population of light geese. The goal of this hunt is to harvest as many light geese, especially Lesser Snow Geese, as possible under existing state and federal laws. You are responsible for following all rules and regulations pertinent to waterfowl hunting and refuge specific regulation as follows.

- 1) All state and federal regulations apply to this hunt. Both state and federal law enforcement officers will randomly monitor this hunt.
- 2) Hunters must obey and remain within direct sight of the guide in the hunt boundary at all times.
- 3) The guide and hunters are allowed into the hunt boundary up to two hours prior to legal shooting time.
- 4) Hunting will stop at 12:00 PM and hunters must be out of the fields by 2:00 PM.
- 5) Hunting dogs, portable blinds, and decoys are allowed at the discretion of the guide.
- 6) No pit blinds are allowed.
- 7) Hunting dogs must be under control at all times.
- 8) Crippled geese may not be retrieved outside of the hunt boundary, including adjacent private land. This includes retrieval by hunting dogs.
- 9) No vehicles will be allowed beyond the established parking area located adjacent to State Highway 118.
- 10) The use of ATVs to set out decoys, other hunting equipment, and hunters will be permitted within the hunt boundary. ATVs may not be used to retrieve harvested or crippled geese.
- 11) Both the guide and hunters are responsible for ensuring that all trash, including spent shotgun shells, are removed from the hunt area each day.
- 10) Violation of these rules may result in the revocation of the guides special use permit as deemed appropriate by the refuge manager.

I have read the above requirements and understand my responsibility as a hunter participating in this controlled hunt.

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Signature

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Date